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EXAMINER

HOGANS, DAVID L

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,973

Applicant(s)

TSUBO, YUMIKO

Examiner

David L. Hogans

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the IDS filed on March 15, 2002.

Status of Claims

Claims 1-10 are pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 2, 3A, 3B, 4A and 4B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action.
3. The drawings are objected to because Figure 2 denotes 25 as the common line and the specification at page 2 line 22 calls it 27. A proposed drawing correction or corrected drawings are required in reply to the Office action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5, 6 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each claim uses the term "large width expansion". The Examiner is uncertain about the parameters of this language because

"large" and "width" are relative terms defined by other reference points. Absent disclosure of such reference points, these terms are without meaning.

6. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 claims that each of said common lines extends substantially at centers of said pixels. As "center" is a relative term defined by other points, it is a term without meaning absent disclosure of such reference points. For instance, center could refer to the periphery of the pixel, or the center of the uppermost surface or the center of mass.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0,555,100 to Ishiguro et al.

In reference to Claim 1, Ishiguro et al. teaches:

- A thin-film-transistor liquid-crystal-display (TFT-LCD) device comprising a plurality of pixels arranged in an array and each including a TFT (224) and an associated pixel electrode (214 or 314) made of a transparent material (ITO), a

plurality of scanning lines (202 or 302) each disposed for a row of said pixels for activating said TFTs in said pixels arranged in the corresponding row, a plurality of data lines (207 or 307) each disposed for a column of said pixels for supplying data signals via said TFTs to said pixel electrodes in said pixels arranged in the corresponding column, wherein each of said pixels further includes a shield member (308 or 310) made of a conductive material (Mo), electrically connected (313) to said pixel electrode and extending along a periphery of said pixel electrode. See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 2, Ishiguro et al. teaches:

- wherein said scanning lines (202 or 302) are implemented by a first level conductive layer, said data lines (207 or 307) and said shield members (308 or 310) are implemented by a second level conductive layer and said pixel electrodes (214 or 314) are implemented by a third level conductive layer. See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 3, Ishiguro et al. teaches:

- wherein said second level conductive layer is made of a metal (Mo) or alloy and said third level conductive layer is made of a metal oxide (ITO). See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 4, Ishiguro et al. teaches:

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- wherein said pixel electrode (214 or 314) is connected to said shield member via at least one through-hole (213 or 313). See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 5, Ishiguro et al. teaches:

- wherein said shield member (308) and said scanning line (302) have respective large width expansions overlapping with each other. Specifically noting Figures 5 and 10 wherein shield member (308) and gate (302a) overlap in the TFT (324) region. See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 6, Ishiguro et al. teaches:

- wherein said shield member (308) and said pixel electrode (314) are connected via at least one through-hole (313) disposed in an area for said large width expansions. See pages 5-9 lines 10-40 and Figures 1-12

In reference to Claim 7, Ishiguro et al. teaches:

- wherein said TFT (324) has a channel region extending parallel to or normal to said scanning line (302). See pages 5-9 lines 10-40 and Figures 1-12

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,555,100 to Ishiguro et al. in view of Applicant's Admitted Prior Art (AAPA).

Claim 8

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. fails to explicitly teach a plurality of common lines each extending parallel to and adjacent to one of said scanning lines, each of said common lines having a large width expansion.

However, AAPA, in Figure 2 and pages 2-3 lines 20-15, teaches a plurality of common lines (25 or 27) each extending parallel to and adjacent to one of said scanning lines (14), each of said common lines having a large width expansion (26).

It would have been obvious to one of ordinary skill in the art to modify Ishiguro et al. by incorporating a plurality of common lines each extending parallel to and adjacent to one of said scanning lines, each of said common lines having a large width expansion, as taught by AAPA, to store electric charge; thereby controlling the electrochemical characteristics of the liquid crystal.

Claim 9

Incorporating all arguments of Claim 8 and noting that Ishiguro et al. teaches wherein said shield member (308) has a large width expansion traversing the periphery of the pixel electrode. As such, it would cover the large width expansion (26), in Figure 2 of AAPA, because such large width expansion is located opposite to the gate scan line (18), in Figure 2 of AAPA, and Figure 12c of Ishiguro et al. teaches this area covered by shield member (308c). See pages 5-9 lines 10-40 and Figures 1-12

Claim 10

Incorporating all arguments of Claim 8 and noting that Ishiguro et al. fails to teach wherein each of said common lines extends substantially at centers of said pixels arranged in a corresponding row.

However, AAPA, in Figure 2, teaches wherein each of said common lines (25 or 27) extends substantially at centers of said pixels (13) arranged in a corresponding row. Noting that extension (26) is centered equidistant on either side of pixel (13).


It would have been obvious to one of ordinary skill in the art to modify Ishiguro et al. by incorporating wherein each of said common lines extends substantially at centers of said pixels arranged in a corresponding row, as taught by AAPA, to prevent variances in parasitic capacitance due to asymmetry, thereby increasing feed-through voltage.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Hogans whose telephone number is (703) 305-3361. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (703) 308-4940. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

dh 
August 22, 2003


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
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